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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/814,702	<b>Applicant(s)</b> HULL ET AL.
	<b>Examiner</b> JAMES R. MARANDI	<b>Art Unit</b> 2421

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 22 July 2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9,11-14,16-18,20-34 and 36-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9,11-14,16-18,20-34 and 36-39 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/09 has been entered.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 7/9/09, and 8/20/09 was filed after filing of Request for Continued Examination on 7/22/09. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is considered by the examiner.

***Response to Amendment***

3. This action is in response to applicant's amendment filed on 7/22/09. Claims 1-9, 11-14, 16-18, 20-34, and 36-39 are presently pending. Claims 10, 15, 19, and 35 have been cancelled.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-9, 11-14, 16-18, 20-34, and 36-39, have been considered but are moot in view of the new ground(s) of rejection.
5. Although a new ground of rejection has been used to address additional limitations that have been added to claims 1, 2, 9, 11, and 20, a response is considered necessary for several of applicant's arguments since Aratani, and Hoda references will continue to be used to meet several claimed limitations.

5.1. Applicant argues that "*the combination of Aratani and Hoda do not disclose or suggest "the list of scheduled play times of the media program" because Aratani fails to teach an action is performed responsive to user selection of the action code from the list*". Page 13 of Remarks, 3<sup>rd</sup> paragraph

Examiner disagrees. Aratani's Figure 3 shows a series of functions associated with the control software (Col. 5, line 50, through Col. 6, line 27). Operation of system control unit and setting/ allocation of action codes are described in Col. 6, lines 28- 63. Figure 5 shows a flow chart of the processing performed by the system control unit upon registration of an action code (Col. 7, lines 4- 50). As described in Col. 7, lines 11- 15, the action codes are selected **from a list** of numbers easily remembered by the user (for most prevalent functions). Furthermore, the user is presented with a **list of programs/ functions associated with various action codes** (Fig. 10). Aratani's system is **responsive to user's selection** and entry of an action code as shown in Fig. 11.

5.2. Applicant further argues that "*one of ordinary skill in the art would not have been able to simply replace Aratani's action code with Hoda's barcode*". Page 13 of Remarks, 4<sup>th</sup> Paragraph

Examiner disagrees. Aratani's action codes are series of numerals. A "barcode", as defined by the Merriam-Webster Dictionary, is a set of printed and variously spaced bars and sometimes numerals that is designed to be scanned to provide information about the object it labels. Aratani's numerals (action codes) identify objects as in Fig. 10 (e.g. to receive E-mail use code 33).

Hoda discloses a series of commands, represented by numerals/ barcodes (Col. 6, lines 57 through Col. 7, line 45), whereby the inputting of commands are simplified by using a barcode scanner (Abstract, Fig. 1, 18, 19, 20, Fig. 2, 18d).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani (e.g. manually inputting a numeral action code to launch an operation, play a program) with Hoda's invention (scanning a barcode (using a barcode reader 19,20 as an input device), such as 18d, to play a program), in order to avoid input errors, manual keyboard entries, and make it faster and more convenient to operate the system.

5.3. Applicant further argues that "*substituting Aratani's action code with Hoda's barcode impermissibly would render Aratani's apparatus inoperable since Aratani does not include the necessary functionality to receive the selection of a barcode from the action code list*". Page 14 of Remarks, 1<sup>st</sup> paragraph

Examiner disagrees. Aratani is equipped to accept user input via an input device (keyboard/ remote control), for example see Col. 12, lines 36- 46. it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani (e.g. manually inputting a numeral action code to launch an operation, play a program) with Hoda's invention (scanning a barcode (using a barcode reader 19,20 as an input device), such as 18d, to play a program), in order to avoid input errors, manual keyboard entries, and make it faster and more convenient to operate the system.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
7. Claims 1, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over S. Aratani, USPN 7,260,828 (hereinafter "Aratani") in view of H. Hoda et al., USPN

4,831,610 (hereinafter "Hoda"), further in view of H. Miyata, USPN 5,010,498 (hereinafter "Miyata").

**7.1.** Regarding claim 1, Aratani discloses **A printer** (Abstract, Fig. 1) **for generating media representations of a collection of media programs received from a media receiver** (media received at antenna, or cable through 101, or from Internet at 121), **the printer comprising** (it is noted that Aratani discloses a data processing apparatus with multiple functions, a television with printer capabilities, or a printer with ability to provide programming signal at 112 and 113 to a display device, therefore printer 202 embodies the print hardware, while the module 100 receives and processes various media):

**a print drive interface that receives scheduling preferences comprising a media program** (System Control Unit 118 contains the control software, Col. 5 lines 41-49, which launches the GUI interface of Fig. 3 which is the nucleus for controlling all processes and drivers, Col. 5, lines 50-55. The EPG data containing the program information and times are received and processed, Col. 3, lines 26-50. EPG data is structured and presented to the user on the screen where user preferences are received and processed, Col. 4, lines 39-64);

**a control module that sets the media receiver to a channel that includes media program scheduling information** (118 controls tuner 101 and decoding modules);

**an extraction module that extracts from the channel, scheduling information associated with the media program** (The scheduling information is extracted from TS data as disclosed in Col. 3, lines 26- 43);

**a processing logic that generates a list of scheduled play times of the media program based on the extracted scheduling information** (Fig. 9, step 904, a search is performed based on user selected search criteria, Col. 10, lines 9, 10. Search criteria is any program characteristics as stored/identified in the EPG, Col. 10, lines 3-9, such as broadcasting/play times/dates),

**a print engine that prints the list of scheduled play times of the media program** (202, also Fig. 9, Col. 9 line 53 through Col. 10 line 34. Also, Fig. 10 shows programs along with their action codes), **the list comprising one or more user selectable action codes for each play time of the media program** (Fig. 7, Col. 8, lines 37-55), **wherein each action code is associated with an action that is performed by the printer responsive to user selection of the action code from the list** (see Fig. 5, Col. 7, line 19 through Col. 8 line 28 for assignment of action codes based on programs, and Col. 10, lines 26-30. Col. 10, lines 3- 42 for extracting program information and associating each program with an action code. Though in this example, action code for playing the program is discussed, Aratani further discloses that there are various action codes associated with a program, as shown in Fig. 13, Col. 12, lines 36-46, e.g. Print, Display, play, etc.. As described in Col. 7, lines 11- 15, the action codes are selected from a list of numbers easily remembered by the user (for most

prevalent functions). Furthermore, the user is presented with a list of programs/ functions associated with various action codes (Fig. 10). Aratani's system is responsive to user's selection and entry of an action code as shown in Fig. 11); and

**a media transfer interface that permits communication between the printer and the media receiver, the media transfer interface being coupled to the media receiver** (data is exchanged via I/F 122 and bus connecting components 122, 118, 123, etc..

Aratani discloses an "action code" uniquely identifying a channel number; program ID, along with times etc. (Col. 6, line 30, through Col. 7, line 18). Aratani does not disclose a **barcode** and its associated input device (barcode reader).

However, Hoda discloses associating unique numbers with **barcodes** to identify and effectuate specific actions associated with each designated program, e.g. play, pause, Fig. 2, Col. 5, lines 9-26, and Col. 6, line 57 through Col. 7 line 45, by using a barcode reader (Fig. 1, 19 and 20).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani (e.g. manually inputting a numeral action code to launch an operation, play a program) with Hoda's

invention (scanning a barcode (using a barcode reader 19,20 as an input device), such as 18d, to play a program), in order to avoid input errors, manual keyboard entries, and make it faster and more convenient to operate the system.

The system of Aratani and Hoda (as shown in Fig. 1 of Aratani) is not explicit that the functions of module 100 (print drive interface, control module, extraction module, processing logic, print engine, and media transfer interface) and printer 202 are performed within a single device (e.g. **within the printer**).

However, Miyata discloses a video printer system (Fig. 1), whereby the functions of print drive interface, control module, extraction module, processing logic, print engine, and media transfer interface are integrated and performed within a single device (printer); See Col. 4, lines 23 through Col. 6, line 17.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani and Had with Miyata's invention, in order to eliminate complicated wiring/ connector/system arrangements between two disparate systems (printer 202 and processor 100) and offer a more user friendly system. (**Motivation offered in Miyata, Col. 1, lines 30- 48**)

**7.2.** Regarding claim 20, Aratani discloses **In a computer system comprising a media receiver in communication with a printer a method** (Abstract, Fig. 1) **for generating media representations of a collection of media programs at the printer, the method performed by the printer and comprising** (it is noted that Aratani discloses a data processing apparatus with multiple functions, a television with printer capabilities, or a printer with ability to provide programming signal at 112 and 113 to a display device, therefore printer 202 embodies the print hardware, while the module 100 receives and processes various media):

**receiving scheduling preferences comprising a media program**

(System Control Unit 118 contains the control software, Col. 5 lines 41-49, which launches the GUI interface of Fig. 3 which is the nucleus for controlling all processes and drivers, Col. 5, lines 50-55. The EPG data containing the program information and times are received and processed, Col. 3, lines 26-50. EPG data is structured and presented to the user on the screen where user preferences are received and processed, Col. 4, lines 39-64);

**setting the media receiver to a channel that includes media program scheduling information** (118 controls tuner 101and decoding modules);

**extracting, from the channel, scheduling information associated with the media program** (The scheduling information is extracted from TS data as disclosed in Col. 3, lines 26- 43); **and**

**generating a list of scheduled play times of the media program based on the extracted scheduling information** (Fig. 9, step 904, a search is

performed based on user selected search criteria, Col. 10, lines 9, 10. Search criteria is any program characteristics as stored/identified in the EPG, Col. 10, lines 3-9, such as broadcasting/play times/dates), **and**

**printing the list of scheduled play times of the media program (202, also Fig. 9, Col. 9 line 53 through Col. 10 line 34. Also, Fig. 10 shows programs along with their action codes), the list comprising one or more user selectable action codes for each play time of the media program (Fig. 7, Col. 8, lines 37-55), wherein each action code is associated with an action that is performed by the printer responsive to user selection of the action code from the list (see Fig. 5, Col. 7, line 19 through Col. 8 line 28 for assignment of action codes based on programs, and Col. 10, lines 26-30. Col. 10, lines 3- 42 for extracting program information and associating each program with an action code. Though in this example, action code for playing the program is discussed, Aratani further discloses that there are various action codes associated with a program, as shown in Fig. 13, Col. 12, lines 36-46, e.g. Print, Display, play, etc.. As described in Col. 7, lines 11- 15, the action codes are selected from a list of numbers easily remembered by the user (for most prevalent functions). Furthermore, the user is presented with a list of programs/functions associated with various action codes (Fig. 10). Aratani's system is responsive to user's selection and entry of an action code as shown in Fig. 11).**

Aratani discloses an "action code" uniquely identifying a channel number; program ID, along with times etc. (Col. 6, line 30, through Col. 7, line 18).

Aratani does not disclose a **barcode** and its associated input device (barcode reader).

However, Hoda discloses associating unique numbers with **barcodes** to identify and effectuate specific actions associated with each designated program, e.g. play, pause, Fig. 2, Col. 5, lines 9-26, and Col. 6, line 57 through Col. 7 line 45, by using a barcode reader (Fig. 1, 19 and 20).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani (e.g. manually inputting a numeral action code to launch an operation, play a program) with Hoda's invention (scanning a barcode (using a barcode reader 19,20 as an input device), such as 18d, to play a program), in order to avoid input errors, manual keyboard entries, and make it faster and more convenient to operate the system.

The system of Aratani and Hoda (as shown in Fig. 1 of Aratani) is not explicit that the functions of module 100 (setting, extracting, generating, printing) and printer 202 are performed within a single device (e.g. **using the printer to perform the steps**).

However, Miyata discloses a video printer system (Fig. 1), where an integrated printer is used to receive signals, set signal selection, extract desired signal, generate displays/ outputs, and print desired output, thereby **using the printer to perform the steps** that otherwise would have been performed by different connected device; See Col. 4, lines 23 through Col. 6, line 17.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani and Had with Miyata's invention, in order to eliminate complicated wiring/ connector/system arrangements between two disparate systems (printer 202 and processor 100) and offer a more user friendly system. (Motivation offered in Miyata, Col. 1, lines 30- 48)

8. Claims 2- 19, and 21- 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over S. Aratani in view of Hoda, in further view of Miyata, in further view of S.M. Hoffberg et al., USPN 6,400,996 (hereinafter "Hoffberg").

8.1. Regarding claims 2, the system of Aratani, Hoda, and Miyata does not disclose  
**media content recognition software that recognizes features in media**  
**content.**

However, Hoffberg discloses **media content recognition software that**  
**recognizes features in media content** (Col. 100, lines 53- 67; Col. 101, lines 1-  
67; Col. 102, lines 1- 19).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to automatically recognize features of interest to the viewer and bring such programs to users attention to reduce clutter and complexity of programming.

8.2. Regarding claim 3, the system of Aratani, Hoda, Miyata, and Hoffberg discloses  
**wherein the media content recognition software further comprises speech**  
**recognition software**, (Hoffberg: Col. 102, lines 14- 19).

8.3. Regarding claim 4, the system of Aratani, Hoda, Miyata, and Hoffberg discloses  
**wherein the media content recognition software further comprises optical**

**character recognition software**, (Hoffberg: Col. 107, lines 59- 64).

8.4. Regarding claim 5, the system of Aratani, Hoda, Miyata, and Hoffberg discloses  
**wherein the media content recognition software further comprises face**  
**detection software**, (Hoffberg: Col. 102, lines 14- 19).

8.5. Regarding claim 6, the system of Aratani, Hoda, Miyata, and Hoffberg discloses  
**wherein the media content recognition software further comprises speaker**  
**detection software**, (Hoffberg: Col. 102, lines 14- 19).

8.6. Regarding claim 7, the system of Aratani, Hoda, Miyata, and Hoffberg discloses  
**wherein the media content recognition software further comprises**  
**keyframe selection software**, keyframe is the same as I-frames in MPEG  
coding. Hoffberg discloses content recognition for MPEG coded content (Col.  
103, lines 7-18).

8.7. Regarding claim 8, the system of Aratani, Hoda, Miyata, and Hoffberg discloses  
**wherein the media content recognition software further comprises face**

**recognition software, (Hoffberg: Col. 102, lines 14-19).**

8.8. Regarding claim 9, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **processing logic that is part of the printer, that controls display of a user interface, wherein the user interface permits the user to control actions of the output printer,** (Aratani discloses that the user through 116 and display unit controls the actions, such as printing of the desired schedules as shown in Figs. 9 and 10; Col. 9, line 53 through Col. 10, line 42).

8.9. Regarding claims 11, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **a storage medium, within the printer, that stores list of scheduled play times of media programs in electronic format** (Aratani: 123, Col. 3. lines 43- 49)

8.10. Claim 12 is rejected as claim 11.

8.11. Regarding claim 13, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **one or more user interaction devices that permit the user to**

**interact with the printer and control the printer's actions, wherein the user interaction devices are external to the printer,** (Aratani: remote control 116).

8.12. Regarding claim 14, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **wherein the list of scheduled play times of the media program is generated in paper format that includes at least one user-selectable identifier allowing a user to access and control media content**, Aratani Fig. 10 shows the print out which includes program names and unique action codes (identifier) selectable by user.

8.13. Regarding claims 16-18, the system of Aratani, Hoda, Miyata, and Hoffberg discloses that there are unique identifiers, for each program, that the user can manually input (Aratani: Col. 8, lines 19-22; Hoffberg: Col. 79, lines 33-41), or choose to print on paper in machine readable forms, such as barcode (Hoda, Fig. 2, 18). These identifiers can also be used to instruct the output device to selectively identify, record, or display the program (Hoda: Fig. 2, 18d and Hoffberg: Col. 79, lines 38-41).

8.14. Regarding claims 21, the system of Aratani, Hoda, and Miyata does not disclose **recognizing media content extracted from the media receiver**.

However, Hoffberg discloses **recognizing media content extracted from the media receiver** (Col. 100, lines 53- 67; Col. 101, lines 1- 67; Col. 102, lines 1- 19).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to automatically recognize features of interest to the viewer and bring such programs to users attention to reduce clutter and complexity of programming.

8.15. Regarding claim 22, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **sending commands to the media receiver to control actions of the media receiver**, Aratani's remote control 116 controls the functions of the receiver through operation unit 114 (Col. 3, lines 26- 33).

8.16. Regarding claims 23, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **scheduling actions of the media receiver to occur at predefined times**, Aratani's action codes are unique and correspond to program names,

channels, and offering time as reflected in the EPG (col. 6, lines 30- 55), which contain programs within a time period between now and future, usually two weeks, therefore the media receiver schedules the program at predefined times by the user.

8.17. Regarding claim 24, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **wherein the scheduling preference further comprise user-defined time periods that the list of schedule play times is generated**, Aratani, Fig. 10, the action code signifies a channel, program name and time. Action codes are unique and correspond to program names, channels, and offering time as reflected in the EPG (col. 6, lines 30- 55).

8.18. Regarding claim 25, the system of Aratani, Hoda, and Miyata does not disclose **wherein the scheduling preferences are entered into a profile that controls actions of the printer which controls actions of the media receiver**.

However, Hoffberg discloses "intelligent selection" whereby the actions of the user are recorded and profiled so as to present the user with options that may closely match user's desires/ habits thereby controlling the actions of the media server and the attached printer (Col. 111,lines 1- 25).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to anticipate and custom tailor program presentations to user's habits/ desires.

8.19. Regarding claim 26, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **wherein the list of scheduled play times of the media program includes specific information about the media program**, Aratani Fig. 10, shows channels, program names, web addresses, etc.

8.20. Regarding claim 27, the system of Aratani, Hoda, and Miyata does not disclose **wherein generating a list of scheduled play times of the media program further comprises formatting the list based on a pre- defined user preferences profile.**

However, Hoffberg discloses **wherein generating a list of scheduled play times of the media program further comprises formatting the list based on a pre- defined user preferences profile.** (Col. 113, line 47 through Col. 114 line 46)

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to anticipate and custom tailor program presentations to user's habits/ desires.

8.21. Regarding claim 28, the system of Aratani, Hoda, and Miyata is not explicit on **updating the generated list of scheduled play times of the media program to include current schedule information associated with the media program.**

However, Hoffberg discloses **updating the generated list of scheduled play times of the media program to include current schedule information associated with the media program.** (Col. 111, lines 26-54)

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to ensure currency of the schedule based on newly available data.

**8.22. Regarding claim 29, the system of Aratani, Hoda, and Miyata does not disclose wherein generating a list of scheduled play times of the media program further comprises:**

**performing optical character recognition on the channel that includes media program scheduling information to read schedule information content and generate a representation of the schedule information content.**

However, Hoffberg discloses extracting content features (time, program, channel No.) from the program/ media and matching them to template databases, EPG Grid, (Col. 101, lines 6-8). The content features are recognized using optical character recognition (Col. 107, lines 59 through Col. 108, line 20). Ability to manipulate program schedules (tables) has been disclosed in Col. 111, lines 26-54. Furthermore, Hoffberg discloses scanning paper copy (hard copy printed database) schedules and manipulating them the same.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to interpret non-digital program channels containing program schedules.

8.23. Regarding claim 30, the system of Aratani, Hoda, and Miyata does not disclose **searching for specific user-defined features within the media content and displaying search results.**

However, Hoffberg discloses **searching for specific user-defined features within the media content and displaying search results** (Col. 100, lines 3-36)

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to anticipate and custom tailor program presentations to user's habits/ desires.

8.24. Regarding claim 31, the system of Aratani, Hoda, and Miyata discloses **monitoring commands from an external interface** (Aratani: 116), wherein **the commands include a request to generate the list of scheduled play times of the media program.** The system of Aratani, Hoda, and Miyata is not explicit on **wherein the request includes user-defined parameters.**

However, Hoffberg presents a menu driven user interface in which user enters information desired (Col. 2, lines 22- 65; Col. 79, lines 33- 51)

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to provide the user with convenience of entering the features they are most interested in.

8.25. Regarding Claim 32, the updating of databases (schedules, barcodes, user profiles, etc.) was analyzed in claim 28 for automated updates. Examiner takes official notice that manual updates via a user device, on command, is well known in the industry, as it further offers the user a level of control and customization in line with Hoffberg's teachings.

8.26. Regarding claim 33, the system of Aratani, Hoda, and Miyata discloses **recording media content and storing the media content on a storage medium** (Aratani: all content is stored at 123), **wherein the stored media content can be played in response to commands received from an external device interface** (in Aratani, A command from remote control 116 identifying a program shown in Fig. 10 will launch that program).

8.27. Regarding claim 34, the system of Aratani, Hoda, and Miyata does not disclose a web server with a common gateway interface for controlling the schedule for recording and playing of media content.

However, Hoffberg discloses a web server with a common gateway interface for controlling the schedule for recording and playing of media content, see Col. 147, Example 30, where an Intelligent Internet Appliance provides the interface for user commands (gateway).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention in order to provide the user with convenience of using the web as an additional remote control option.

8.28. Regarding claim 36, the system of Aratani, Hoda, Miyata, and Hoffberg discloses receiving a selection of a barcode that causes the printer to perform an action of recording a media program associated with the barcode. In Aratani and Hoffberg the codes in Fig. 10 of Aratani represent Hoffberg's barcodes; therefore selection of any such programs will trigger their recording via AV/C controls through Aratani's VTR 201 (Col. 5, lines 5- 9).

8.29. Regarding claim 37, the system of Aratani, Hoda, Miyata, and Hoffberg discloses **receiving a selection of a barcode that causes the printer to play, on a display device, a media program associated with the barcode**. In Aratani and Hoffberg the codes in Fig. 10 of Aratani represent Hoffberg's barcodes; therefore selection of any such programs will trigger their display through Aratani's 112 and 113.

8.30. Claim 38, updating of databases and associated data, is rejected by the same analysis as claim 28.

8.31. Regarding claim 39, the system of Aratani, Hoda ,and Miyata does not disclose **further comprising advancing the media program scheduling information, wherein advancing the media program scheduling information comprises:**

**capturing a first frame of a current display of the media program scheduling information on the channel;**

**sending a command to the media receiver to advance the current display of the media program scheduling information on the channel;**

**capturing a second frame of the advanced display of the media program scheduling information on the channel; and comparing the first frame to the second frame to determine if the scheduling information has changed and to determine if the display of the media program scheduling information should be advanced**

Hoffberg disclose updating the database of program schedules and information (Col. 111, lines 26-54). Hoffberg further discloses using OCR technology to scrape analog programs (on screen or in news papers, Col. 111, lines 44- 54) in order to identify future and imminent program. Hoffberg discloses controlling the causation of an action on the occurrence of an event (Col. 69, lines 20-51), namely advancing to the next frame as feature extractor (Fig. 22, 2204) extract newly changed data in each frame.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani, Hoda, and Miyata with Hoffberg's invention, in order to be able to sense programming changes in painted guides (non digital).

***Contacts***

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